Amendments to the Claims

Please delete claim 47 in it entirety without prejudice or disclaimer.

Please add new claims 48-58 as follows:

48. (new) A method comprising

applying a continuous stream comprising O_x gas to a material in a biological burden reduction chamber, wherein said O_x gas comprises O_1, O_2 and O_3;

applying a vacuum within the biological burden reduction chamber; and

maintaining a pressure within the biological burden reduction chamber at about 0 to about 20 psia.

49. (new): The method of claim 48, further comprising agitating the O_x gas in the biological burden reduction chamber.

50. (new): The method of claim 48, wherein the O_x gas in the biological burden reduction chamber is maintained at a concentration of about 0.1% to about 25% by volume of total gas in the biological burden reduction chamber.

51. (new): The method of claim 48, wherein the O_x gas in the biological burden reduction chamber is maintained at a concentration of about 3% to about 16% by volume of total gas in the biological burden reduction chamber.

52. (new): The method of claim 48, further comprising creating a pressure differential between the biological burden reduction chamber and an O_x gas generation cell, which pressure differential is maintained while applying the stream comprising O_x gas to the material.

53. (new): The method of claim 48, wherein a temperature within the biological burden reduction chamber is between about 32°F and about 80°F.

54. (new): The method of claim 48, wherein a flow rate of said continuous stream of O_x gas is between about 0.1L/min/ft^3 and about 2L/min/ft^3.

55. (new): The method of claim 48, further comprising applying a stream of one or more gases selected from the group consisting of N_2, CO_2 and Ar to the biological burden reduction chamber.

56. (new): The method of claim 48, wherein said O_x gas in said biological burden reduction chamber is maintained at a concentration of about 0.1% to about 100% by volume of total gas in the biological burden reduction chamber.

57. (new): The method of claim 48 wherein, a pressure within the biological burden reduction chamber is maintained between about 5.5 psia and about 9 psia.

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58. (new): A method comprising

creating a vacuum within a biological burden reduction chamber;

applying a stream of O_x gas into a biological burden reduction chamber; and

simultaneously withdrawing O_x gas out of the biological burden reduction chamber, wherein the O_x gas comprises O_1, O_2 and O_3.–